1/25

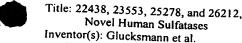
FIG. 1A.

Sequence length 2175

CACGCGTCCGCAAATTTCCTGATTCTTTTGAATTAGGATTCCAGATGGGGGCCTCATTTCTACAGCCCCCAACATTCCT
ATAGCCGTTATCACTGCCATCACCACTGCCACCAGCATCTTCTTGCAGATTCCACCCCTGCTCCCCAGAGACTTCCTGC

TTTGAAAGTGAGCAGAAAGGAAGCTCTCAGAAAAATCTCTAGTGGTGGCTGCCGTCGCTCCAGACAATCGGAATCCTGC

M G W L F L K V L L A G V S F S G CTTCACCACC ATG GGC TGG CTT TTT CTA AAG GTT TTG TTG GCG GGA GTG AGT TTC TCA GGA	17 51
F L Y P L V D F C I S G K T R G Q K P N TIT CTT TAT CCT CTT GTG GAT TTT TGC ATC AGT GGG AAA ACA AGA GGA CAG AAG CCA AAC	37 111
F V I I L A D D M G W G D L G A N W A E TIT GTG ATT ATT TTG GCC GAT GAC ATG GGG TGG GGT GAC CTG GGA GCA AAC TGG GCA GAA	57 171
T K D T A N L D K M A S E G M R F V D F ACA AAG GAC ACT GCC AAC CTT GAT AAG ATG GCT TCG GAG GGA ATG AGG TTT GTG GAT TTC	77 231
H A A A S T C S P S R A S L L T G R L G CAT GCA GCT GCC TCC ACC TGC TCA CCC TCC CGG GCT TCC TTG CTC ACC GGC CGG CTT GGC	97 291
L R N G V T R N F A V T S V G G L P L N CTT CGC AAT GGA GTC ACA CGC AAC TTT GCA GTC ACT TCT GTG GGA GGC CTT CCG CTC AAC	117 351
E T T L A E V L Q Q A G Y V T G I I G K GAG ACC ACC TTG GCA GAG GTG CTG CAG CAG GCG GGT TAC GTC ACT GGG ATA ATA GGC AAA	137 411
W H L G H H G S Y H P N F R G F D Y Y F TGG CAT CTT GGA CAC CAC GGC TCT TAT CAC CCC AAC TTC CGT GGT TTT GAT TAC TAC TTT	157 471
G I P Y S H D M G C T D T P G Y N H P P GGA ATC CCA TAT AGC CAT GAT ATG GGC TGT ACT GAT ACT CCA GGC TAC AAC CAC CCT CCT	177 531
C P A C P Q G D G P S R N L Q R D C Y T TGT CCA GCG TGT CCA CAG GGT GAT GGA CCA TCA AGG AAC CTT CAA AGA GAC TGT TAC ACT	197 591
D V A L P L Y E N L N I V E Q P V N L S GAC GTG GCC CTC CCT CTT TAT GAA AAC CTC AAC ATT GTG GAG CAG CCG GTG AAC TTG AGC	217 651
S L A Q K Y A E K A T Q F I Q R A S T S AGC CTT GCC CAG AAG TAT GCT GAG AAA GCA ACC CAG TTC ATC CAG CGT GCA AGC ACC AGC	237 711
G R P F L L Y V A L A H M H V P L P V T GGG AGG CCC TTC CTG CTC TAT GTG GCT CTG GCC CAC ATG CAC GTG CCC TTA CCC GTG ACT	257 771
Q L P A A P R G R S L Y G A G L W E M D CAG CTA CCA GCA GCG CCA CGG GGC AGA AGC CTG TAT GGT GCA GGG CTC TGG GAG ATG GAC	277 831
S L V G Q I K D K V D H T V K E N T F L AGT CTG GTG GGC CAG ATC AAG GAC AAA GTT GAC CAC ACA GTG AAG GAA AAC ACA TTC CTC	- 297 891
W F T G D N G P W A Q K C E L A G S V G TGG TTT ACA GGA GAC AAT GGC CCG TGG GCT CAG AAG TGT GAG CTA GCG GGC AGT GTG GGT	317 951
P F T G F W Q T R Q G G S P A K Q T T W CCC TTC ACT GGA TTT TGG CAA ACT CGT CAA GGG GGA AGT CCA GCC AAG CAG ACG ACC TGG	337 1011
EGGH ['] RVPALAYWPGRVPVNV	357



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GAA GGA GGC CAC CGG GTC CCA GCA CTC CCA GCA CTG GCT TAC TGG CCT GGC AGA GTT CCA GTT AAT GTC 1071 377 L D 1131 ACC AGC ACT GCC TTG TTA AGC GTG CTG GAC ATT TTT CCA ACT GTG GTA GCC CTG GCC CAG 397 G R R D ն D S E 1191 GCC AGC TTA CCT CAA GGA CGG CGC TTT GAT GGT GTG GAC GTC TCC GAG GTG CTC TTT GGC 417 R F H G G Н 1251 CGG TCA CAG CCT GGG CAC AGG GTG CTG TTC CAC CCC AAC AGC GGG GCA GCT GGA GAG TTT 437 R R Y K A F Y T G ۷ GGA GCC CTG CAG ACT GTC CGC CTG GAG CGT TAC AAG GCC TTC TAC ATT ACC GGT GGA GCC 1311 457 C D S E Q T G 1371 AGG GCT TGT GAT GGG AGC ACG GGG CCT GAG CTG CAG CAT AAG TTT CCT CTG ATT TTC AAC 477 Ε R G E Ε G CTG GAA GAC GAT ACC GCA GAA GCT GTG CCC CTA GAA AGA GGT GGT GCG GAG TAC CAG GCT 1431 497 ٧ D Ε R K A D Q A N 1491 GTG CTG CCC GAG GTC AGA AAG GTT CTT GCA GAC GTC CTC CAA GAC ATT GCC AAC GAC AAC C 517 D C ATC TCC AGC GCA GAT TAC ACT CAG GAC CCT TCA GTA ACT CCC TGC TGT AAT CCC TAC CAA 1551 526 1578 ATT GCC TGC CGC TGT CAA GCC GCA TAA

FIG. 1B.

_/

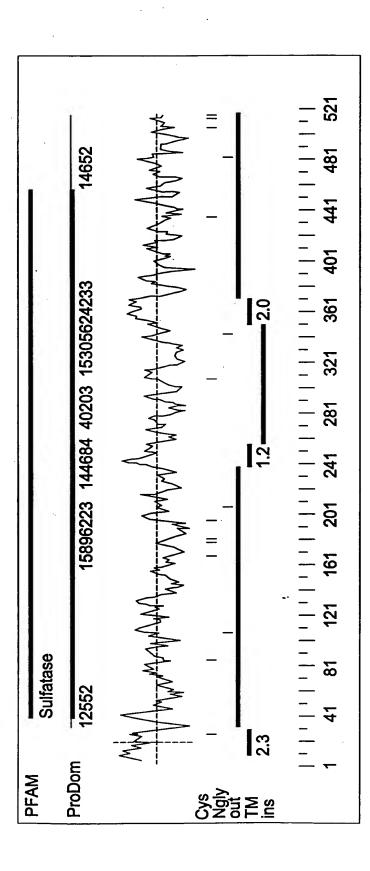
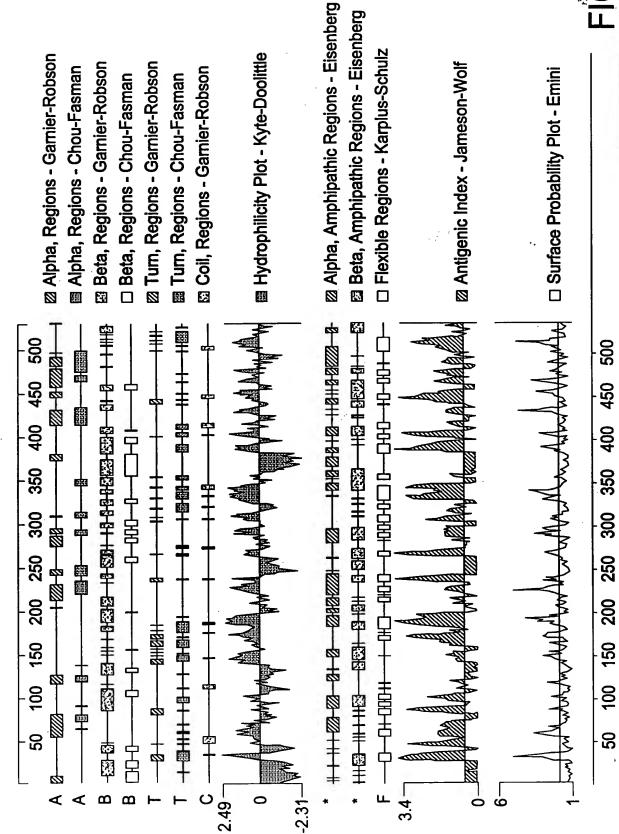


FIG. 2.



Fitle: 22438, 23553, 25278, and 26212,

Novel Human Sulfatases

Inventor(s): Glucksmann et al.

Application No: 09/495,823 Atty Dkt No: 5800-79(35800/191890)



Inventor(s): Glucksmann et al. Application No: 09/495,823

Atty Dkt No: 5800-79(35800/191890)

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FIG. 4.

Prosite Pattern Matches

Prosite version: Release 12.2 of February 1995

>PS00001/PDOC00001/ASN_GLYCOSYLATION N-glycosylation site.

 Query: 117
 NETT 120

 Query: 215
 NLSS 218

 Query: 356
 NVTS 359

 Query: 497
 NISS 500

>PS00005/PDOC00005/PKC_PHOSPHO_SITE Protein kinase C phosphorylation site.

 Query:
 28
 SGK
 30

 Query:
 93
 TGR
 95

 Query:
 237
 SGR
 239

 Query:
 290
 TVK
 292

 Query:
 422
 TVR
 424

>PS00006/PDOC00006/CK2_PHOSPHO_SITE Casein kinase II phosphorylation site.

 Query: 120
 TLAE
 123

 Query: 290
 TVKE
 293

 Query: 335
 TTWE
 338

 Query: 364
 SVLD
 367

 Query: 444
 TGPE
 447

 Query: 499
 SSAD
 502

>PS00008/PDOC00008/MYRISTYL N-myristoylation site.

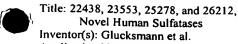
Query: 12 **GVSFSG 17** Query: 33 **GQKPNF 38 GANWAE 57** Query: 52 Query: 97 **GLRNGV 102** Query: 113 **GLPLNE 118 Query: 158** GIPYSH 163 Query: 328 **GGSPAK 333 Query: 388 GVDVSE 393 Query: 418 GALQTV 423** Query: 435 **GGARAC 440**

>PS00009/PDOC00009/AMIDATION Amidation site.

Query: 382 QGRR 385

><u>PS00149</u>/PDOC00117/SULFATASE_2 Sulfatases signature 2.

Query: 129 GYVTGIIGKW 138



Application No: 09/495,823 Atty Dkt No: 5800-79(35800/191890)

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Input file Fbh23553fl.seq; Output File 23553.trans Sequence length 4321

FIG. 5A

CTGAATACCTCTGAGAATAGAGATTGATTATTCAACCAGGATACCTAATTCAAGAACTCCAGAAATCAGGAGACGGAGA	
M K Y S C C A L V L A CATTITIGTCAGTITITIGCAACATTGGACCAAATACA ATG AAG TAT TCT TGC TGT GCT CTG GTT TTG GCT	11 33
V L G T E L L G S L C S T V R S P R F R GTC CTG GGC ACA GAA TTG CTG GGA AGC CTC TGT TCG ACT GTC AGA TCC CCG AGG TTC AGA	31 93
G R I Q Q E R K N I R P N I I L V <u>L T D</u> GGA CGG ATA CAG CAG GAA CGA AAA AAC ATC CGA CCC AAC ATT ATT CTT GTG CTT ACC GAT	51 153
DQDVELGSSLQVMNKTRKIMEGAT CAA GAT GAG AGA CAGA CAGA CAGA CAGA	71 213
H G G A T F I N A F V T T P M C C P S R CAT GGG GGG GCC ACC TTC ATC AAT GCC TTT GTG ACT ACA CCC ATG TGC TGC CCG TCA CGG	91 273
S S M L T G K <u>Y V H N H</u> N V Y T N N E N TCC TCC ATG CTC ACC GGG AAG TAT GTG CAC AAT CAC AAT GTC TAC ACC AAC AAC GAG AAC	111 333
C S S P S W Q A M H E P R T F A V Y L N TGC TCT TCC CCC TCG TGG CAG GCC ATG CAT GAG CCT CGG ACT TTT GCT GTA TAT CTT AAC	131 393
N T G Y R T A F F G K Y L N E Y N G S Y AAC ACT GGC TAC AGA ACA GCC TTT TTT GGA AAA TAC CTC AAT GAA TAT AAT GGC AGC TAC	151 453
I P P G W R E W L G L I K N S R F Y N Y ATC CCC CCT GGG TGG CGA GAA TGG CTT GGA TTA ATC AAG AAT TCT CGC TTC TAT AAT TAC	171 513
I V C R N G I K E K H G F D Y A <u>K D Y F</u> ACT GTT TGT CGC AAT GGC ATC AAA GAA AAG CAT GGA TTT GAT TAT GCA AAG GAC TAC TTC	191 573
T D L I T N E S I N Y F K M S K R M Y P ACA GAC TTA ATC ACT AAC GAG AGC ATT AAT TAC TTC AAA ATG TCT AAG AGA ATG TAT CCC	211 633
H R P V M M V I S H A A P H G P E D S A CAT AGG CCC GTT ATG ATG GTG ATC AGC CAC GCT GCG CCC CAC GGC CCC GAG GAC TAC GCC	693 693
P Q F S K L Y P N A S Q H I T P S Y N Y CCA CAG TTT TCT AAA CTG TAC CCC AAT GCT TCC CAA CAC ATA ACT CCT AGT TAT AAC TAT	251 753
A P N M D K H W I M Q Y T G P M L P I H GCA CCA AAT ATG GAT AAA CAC TGG ATT ATG CAG TAC ACA GGA CCA ATG CTG CCC ATC CAC	271 813
M E F T N I L Q R K <u>R L Q T L</u> M S V D D ATG GAA TTT ACA AAC ATT CTA CAG CGC AAA AGG CTC CAG ACT TTG ATG TCA GTG GAT GAT	291 873
SVERLYNMLVETGELENTYI	311

Inventor(s): Glucksmann et al. Application No: 09/495,823 Atty Dkt No: 5800-79(35800/191890)



FIG. 5B.

TCT GTG GAG AGG CTG TAT AAC ATG CTC GTG GAG ACG GGG GAG CTG GAG AAT ACT TAC ATC 933 G G 331 ATT TAC ACC GCC GAC CAT GGT TAC CAT ATT GGG CAG TTT GCA CTG GTC AAG GGG AAA TCC 993 G 351 ATG CCA TAT GAC TIT GAT ATT CGT GTG CCT TIT TIT ATT CGT GGT CCA AGT GTA GAA CCA 1053 GGA TCA ATA GTC CCA CAG ATC GTT CTC AAC ATT GAC TTG GCC CCC ACG ATC CTG GAT ATT 1113 D ٧ D G D K S D GCT GGG CTC GAC ACA CCT CCT GAT GTG GAC GGC AAG TCT GTC CTC AAA CTT CTG GAC CCA 1173 G N R R Τ N K K A K R F GAA AAG CCA GGT AAC AGG TTT CGA ACA AAC AAG AAG GCC AAA ATT TGG CGT GAT ACA TTC 1233 G K R K K Ε E S S K Q N 431 CTA GTG GAA AGA GGC AAA TTT CTA CGT AAG AAG GAA GAA TCC AGC AAG AAT ATC CAA CAG 1293 P K E R ٧ K E C Q Q A Υ 451 TCA AAT CAC TTG CCC AAA TAT GAA CGG GTC AAA GAA CTA TGC CAG CAG GCC AGG TAC CAG 1353 Q P Ε G Q K Q C Ε D S G K 471 ACA GCC TGT GAA CAA CCG GGG CAG AAG TGG CAA TGC ATT GAG GAT ACA TCT GGC AAG CTT 1413 G S K D T R Q S R 491 N CGA ATT CAC AAG TGT AAA GGA CCC AGT GAC CTG CTC ACA GTC CGG CAG AGC ACG CGG AAC 1473 S D K n K E C. R Ε ն 511 CTC TAC GCT CGC GGC TTC CAT GAC AAA GAC AAA GAG TGC AGT TGT AGG GAG TCT GGT TAC 1533 R Q S Q R Q F S K R N Q G CGT GCC-AGC AGA AGC CAA AGA AAG AGT CAA CGG CAA TTC TTG AGA AAC CAG GGG ACT CCA 1593 R ۷ R Q. R S S F Н Τ Τ ۷ E F Ε 551 AAG TAC AAG CCC AGA TTT GTC CAT ACT CGG CAG ACA CGT TCC TTG TCC GTC GAA TTT GAA 1653 D Ε E Ε E E Q 571 GGT GAA ATA TAT GAC ATA AAT CTG GAA GAA GAA GAA GAA TTG CAA GTG TTG CAA CCA AGA 1713 R Н D Ε G Н K G P R D Q S 591 Α AAC ATT GCT AAG CGT CAT GAT GAA GGC CAC AAG GGG CCA AGA GAT CTC CAG GCT TCC AGT 1773 Α D S GGT GGC AAC AGG GGC AGG ATG CTG GCA GAT AGC AGC AAC GCC GTG GGC CCA CCT ACC ACT 1833 Н C F P D S K N Н С E 631 GTC CGA GTG ACA CAC AAG TGT TTT ATT CTT CCC AAT GAC TCT ATC CAT TGT GAG AGA GAA 1893 R K D H A Ι D Ε Ε 651 CTG TAC CAA TCG GCC AGA GCG TGG AAG GAC CAT AAG GCA TAC ATT GAC AAA GAG ATT GAA 1953 671 GCT CTG CAA GAT AAA ATT AAG AAT TTA AGA GAA GTG AGA GGA CAT CTG AAG AGA AGG AAG 2013 S С S Q K Y Y N K Ε Κ G ۷ K 291 CCT GAG GAA TGT AGC TGC AGT AAA CAA AGC TAT TAC AAT AAA GAG AAA GGT GTA AAA AAG 2073 Р Κ Н Н F K E E CAA GAG AAA TTA AAG AGC CAT CTT CAC CCA TTC AAG GAG GCT GCT CAG GAA GTA GAT AGC 2133



Title: 22438, 23553, 25278, and 26212, Novel Human Sulfatases Inventor(s): Glucksmann et al. Application No: 09/495,823

Application No: 09/495,823 Atty Dkt No: 5800-79(35800/191890)



FIG. 5C.

Ε R R R K K Ε E N N G F C S TTC ACG CAT GAC AAC 2253 CGG CAG AGG AAG GGG GAA GAG TGC AGC CTG CCT GGC CTC ACT TGC G TTC TGG AAC CTG GGA TCT TTC TGG TTG CGT ACA GTT AAT GAG ACG TGT 811 GAT ATG AAT E R G AAT ACA GTG CAC ACG GTA GAA CGA GGC ATT TTG AAT CAG CTA CAC 2493 N 851 TGC CCA AGA CCT AAG AAT CTT GAT GTT G 871 AAT AAA GAT GGA GGA AGC TAT GAC CTA CAC AGA GGA CAG TTA TGG GAT GGA TGG GAA GGT 2613 ¥ 872 TAA 2616

GTCACTATGAGCAAAATAAAACAAATAAGACTCAAACTGCTCAAAGTGACGGGTTCTTGGTTGTCTCTGCTGAGCACGC TGTGTCAATGGAGATGGCCTCTGCTGACTCAGATGAAGACCCAAGGCATAAGGTTGGGAAAACACCTCATTTGACCTTG CCAGCTGACCTTCAAACCCTGCATTTGAACCGACCAACATTAAGTCCAGAGAGTAAACTTGAATGGAATAACGACATTC CAGAAGTTAATCATTTGAATTCTGAACACTGGAGAAAAAACCGAAAAATGGACGGGGCATGAAGAGACTAATCATCTGGA AACCGATTTCAGTGGCGATGGCATGACAGAGCTAGAGCTCGGGCCCAGCCCCAGGCTGCAGCCCATTCGCAGGCACCCG AAAGAACTTCCCCAGTATGGTGGTCCTGGAAAGGACATTTTTTGAAGATCAACTATATCTTCCTGTGCATTCCGATGGAA TTTCAGTTCATCAGATGTTCACCATGGCCACCGCAGAACACCGAAGTAATTCCAGCATAGCGGGGAAGATGTTGACCAA GGTGGAGAAGAATCACGAAAAGGAGAAGTCACAGCACCTAGAAGGCACCTCCTCTCTCACTCTCCTCTGATTAGATG AAACTGTTACCCTTACCTAAACACAGTATTTCTTTTTAACTTTTTTATTTGTAAACTAATAAAGGKAATCACAGCCACC AACATTCCAAGCTACCCTGGGTACCTTTGTGCAGTAGAAGCTAGTGAGCATGTGAGCAAGCGGTGTGCACACGGAGAGCT CATCGTTATAATTTACTATCTGCCAAGGAGTAGAAAGAAGGCTGGGGATATTTGGGTTGGCTTTGGKTTTGATTTTTT GCTTGGTTGGTTTGKACTAAAACAGTATTATCTTTTGAATATCGTAGGGACATAARKWWWWMMWKKTWWTCMAW YMRAKAKGSYWRRAWKGGGSTYTYTSKKRKSTMWAMWYKWSCMCCYSKKRWWAWTYWYWMMYWCMYKYTSSSTGRYKRN KTAATGAAGTT

Analysis of 23553 (871 aa)

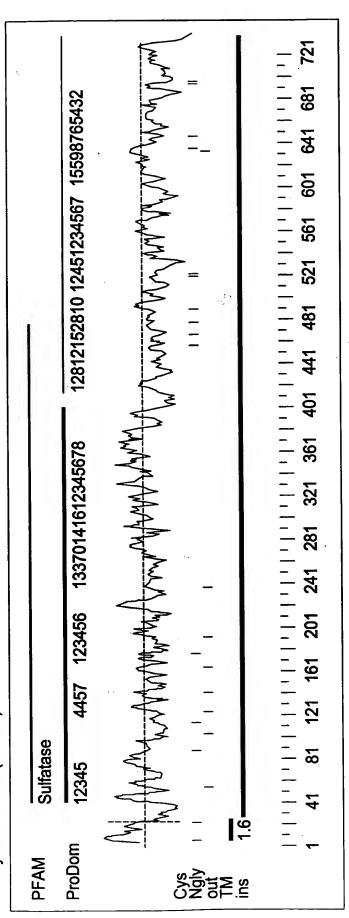
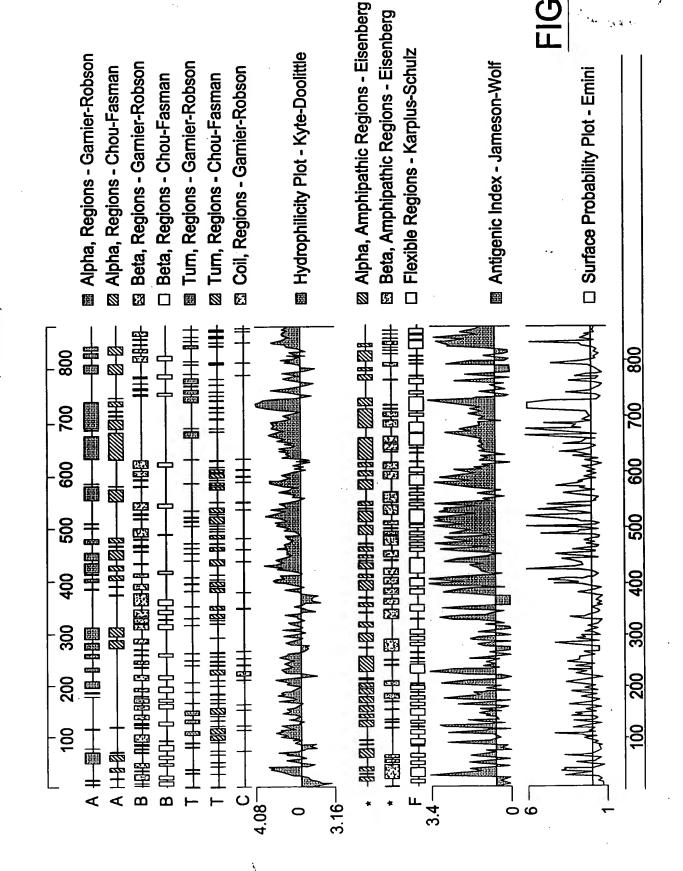


FIG. 6.





Inventor(s): Glucksmann et al. Application No: 09/495,823 Atty Dkt No: 5800-79(35800/191890)



Prosite Pattern Matches for 23553

Prosite versions: Release 12.2 of February 1995

>PS00001/PDOC00001/ASN_GLYCOSYLATION N-glycosylation site.

Query: 64 NKTR 67 **NCSS 114** Query: 111 Query: 131 **NNTG 134 NGSY 151** Query: 148 **NYTV 173 Query: 170 NESI 200 Query: 197** NASQ 243 Query: 240 626 NDSI **Query: 623 NNTY 776 Query: 773 NETH 786 Query: 783**

>PS00005/PDOC00005/PKC_PHOSPHO_SITE Protein kinase C phosphorylation site.

TVR 26 Query: 24 Query: 27 **SPR** 29 68 Query: 66 **TRK TGK** 98 Query: 96 SKR 208 Query: 206 402 Query: 400 TNK 427 Query: 425 SSK SGK 470 Query: 468 486 **TVR** Query: 484 STR 490 Query: 488 507 SCR **Query:** 505 518 **SQR Query: 516** 522 Query: 520 **SQR** 532 **TPK** Query: 530 **TVR** 613 Query: 611 617 Query: 615 THK SAR 637 Query: 635

><u>PS00006</u>/PDOC00006/CK2_PHOSPHO_SITE Casein kinase II phosphorylation site.

110 **TNNE** Query: 107 **SVDO** 291 Query: 288 TILD 370 Query: 367 **TPPD** 379 Query: 376 **TACE** 455 Query: 452 508 SCRE Query: 505 Query: 781 TVNE 784

FIG. 8A.

Inventor(s): Glucksmann et al. Application No: 09/495,823 Atty Dkt No: 5800-79(35800/191890)

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 $\verb|-PS00007/PDOC00007/TYR_PHOSPHO_SITE Tyrosine kinase phosphorylation site.\\$

Query: 637 RAWKDHKAY 645

 Query:
 19
 GSLCST 24

 Query:
 161
 GLIKNS 166

 Query:
 325
 GLVKGK 330

 Query:
 592
 GGNRGR 597

 Query:
 763
 GSFCAC 768

 Query:
 851
 GNKDGG 856

>PS00523/PDOC00117/SULFATASE_1 Sulfatases signature 1.

Query: 85 PMCCPSRSSMLTG 97

FIG. 8B.

Title: 22438, 23553, 25278, and 26212, Novel Human Sulfatases Inventor(s): Glucksmann et al. Application No: 09/495,823 Atty Dkt No: 5800-79(35800/191890)

Title: 22438, 23553, 25278, and 26212, Novel Human Sulfatases Inventor(s): Glucksmann et al.

Application No: 09/495,823 Atty Dkt No: 5800-79(35800/191890)



Input file Fbh25278FL1. seq; Output File 25278; trans Sequence length 2940

FIG. 10A.

AGCATCCGAGCCGGCGGGCCGGTGGTGCGCCCTGGGCGCGCGGGGGGGG								
CGCGGGCCGGCTTGGCG ATG CAC ACC CTC ACT GGC TTC TCT CTG GTC AGC CTG CTC AGC TTC	15 45							
G Y L S W D W A K P S F V A D G P G E A GGC TAC CTG TCC TGG GAC TGG GCC AAG CCG AGC TTC GTG GCC GAC GGG CCC GGG GAG GCT	35 105							
G E Q P S A A P P Q P P H I I F I L T D GGC GAG CAG CCC TCG GCC GCT CCG CCC CAG CCT CCC CAC ATC ATC TTC ATC CTC ACG GAC	55 165							
D Q G Y H D V G Y H G S D I E T P T L D GAC CAA GGC TAC CAC GGC TAC CAT GGT TCA GAT ATC GAG ACC CCT ACG CTG GAC	75 225							
R L A A K G V K L E N Y Y I Q P I <u>C T P</u> AGG CTG GCG GCC AAG GGG GTC AAG TTG GAG AAT TAT TAC ATC CAG CCC ATC TGC ACG CCT	95 285							
S R S Q L L T G R Y Q I H T G L Q H S I TCG CGG AGC CAG CTC CTC ACT GGC AGG TAC CAG ATC CAC ACA GGA CTC CAG CAT TCC ATC	115 345							
I R P Q Q P N C L P L D Q V T L P Q K L ATC CGC CCA CAG CAG CCC AAC TGC CTG CCC CTG GAC CAG GTG ACA CTG CCA CAG AAG CTG	135 405							
Q E A G Y S <u>T H M V G K W H L G</u> F <u>Y R K</u> CAG GAG GCA GGT TAT TCC ACC CAT ATG GTG GGC AAG TGG CAC CTG GGC TTC TAC CGG AAG	155 465							
E C L P T R R G F D T F L G S L T G N V GAG TGT CTG CCC ACC CGT CGG GGC TTC GAC ACC TTC CTG GGC TCG CTC ACG GGC AAT GTG	175 525							
D Y Y T Y D N C D G P G V C G F D L H E GAC TAT TAC ACC TAT GAC AAC TGT GAT GGC CCA GGC GTG TGC GGC TTC GAC CTG CAC GAG	195 585							
G E N V A W G L S G Q Y S T M L Y A Q R GGT GAG AAT GTG GCC TGG GGG CTC AGC GGC CAG TAC TCC ACT ATG CTT TAC GCC CAG CGC	215 645							
A S H I L A S H S P Q R P L <u>F L Y V A F</u> GCC AGC CAT ATC CTG GCC AGC CAC AGC CCT CAG CGT <u>CCC CTC TTC CTC TA</u> T GTG GCC TTC	235 705							
Q A V H T P L Q S P R E Y L Y R Y R T M CAG GCA GTA CAC ACA CCC CTG CAG TCC CCT CGT GAG TAC CTG TAC CGC TAC CGC ACC ATG	255 765							
G N V A R R K Y A A M V T C M D E A V R GGC AAT GTG GCC CGG CGG AAG TAC GCG GCC ATG GTG ACC TGC ATG GAT GAG GCT GTG CGC	275 825							
N I T W A L K R Y G F Y N N S V I I F S AAC ATC ACC TGG GCC CTC AAG CGC TAC GGT TTC TAC AAC AAC AGT GTC ATC ATC TCC	295 885							
S <u>D N G G Q T</u> F S G G S <u>N W P L R G R K</u> AGT GAC AAT GGT GGC CAG ACT TTC TCG GGG GGC AGC AAC TGG CCG CTC CGA GGA CGC AAG	315 945							
G T Y W E G G V R G L G F V H S P L L K GGC ACT TAT TGG GAA GGT GGC GTG CGG GGC CTA GGC TTT GTC CAC AGT CCC CTG CTC AAG	335 1 005							

Inventor(s): Glucksmann et al. Application No: 09/495,823

Atty Dkt No: 5800-79(35800/191890)

15/25

355 М Н CCA AAG CAA CGG ACA AGC CGG GCA CTG ATG CAC ATC ACT GAC TGG TAC CCG ACC CTG GTG 1065 375 S Ρ D G Υ ն G G A Α G GGT ACC ACC TCA GCA GCC GAT GGG CTA GAT GGC TAC GAC GTG TGG CCG 1125 GGT CTG GCA GGT 395 S R E Ε G R A GAC 1185 GCC ATC AGC GAG GGC CGG GCC TCA CCA CGC ACG GAG ATC CTG CAC AAC ATT CCA CTC 415 Y G 2 Ε G A Α G TCC CTG GAG GGC GGC TTT GGC ATC ACC GCC GTG 1245 CAG CAT GGC TGG AAC TAC AAC CAT GCC 435 D D ն Ε ն G CAG GCT GCC ATC CGC GTG GGT GAG TGG AAG CTG CTG ACA 1305 GGA GAC CCC GGC TAT GGC GAT 455 Q A G S N Ε R TGG ATC CCA CCG CAG ACA CTG GCC ACC TTC CCG GGT AGC TGG TGG AAC CTG GAA 1365 CGA ATG 475 Ε GCC AGT GTC CGC CAG GCC GTG TGG CTC TTC AAC ATC AGT GCT GAC CCT TAT GAA CGG GAG 1425 495 ն D GAC CTG GCT GGC CAG CGG CCT GAT GTG GTC CGC ACC CTG CTG GCT CGC CTG GCC GAA TAT 1485 F 515 R F R D A N A AAC CGC ACA GCC ATC CCG GTA CGC TAC CCA GCT GAG AAC CCC CGG GCT CAT CCT GAC III 1545 R 535 S D Ε E Ε E Ε Ε Ε G G AAT GGG GGT GCT TGG GGG CCC TGG GCC AGT GAT GAG GAA GAG GAA GAG GAA GGG AGG 1605 S R R R K C C R S 555 G TCC CGG GGT CGT CGC AAG AAA AAA TGC AAG ATT TGC AAG CTT CGA TCC 1665 CGA AGC GCT TIC 570 TTT TTC CGT AAA CTC AAC ACC AGG CTA ATG TCC CAA CGG ATC TGA 1710

FIG. 10B.

Analysis of 25278 (569 aa)

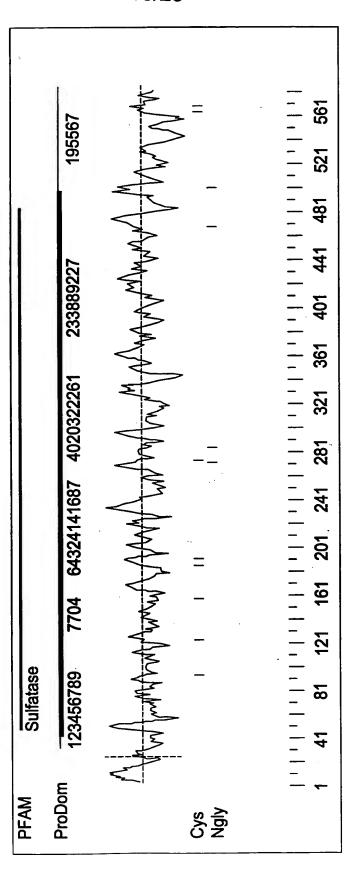
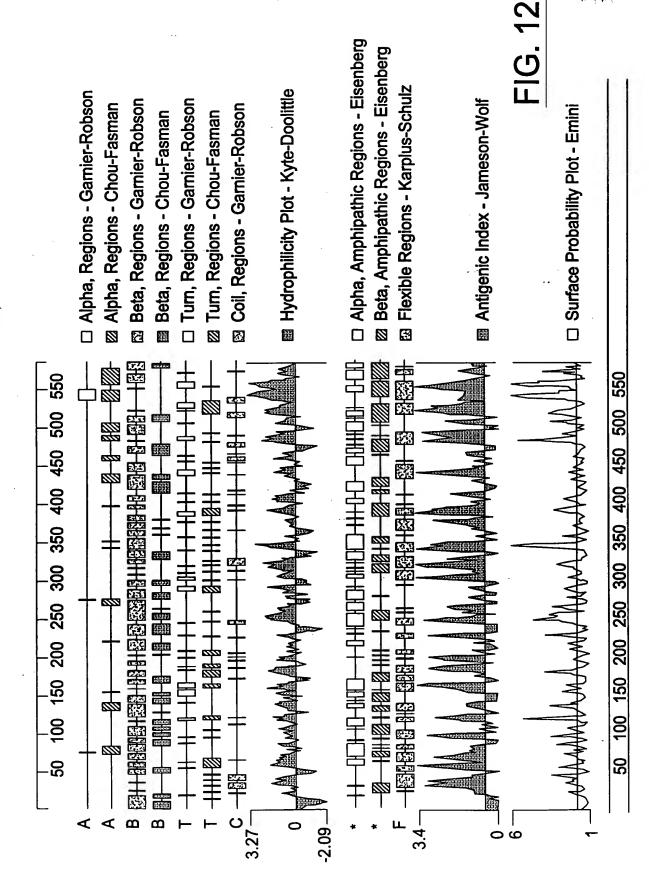


FIG. 11



Inventor(s): Glucksmann et al. Application No: 09/495,823

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FIG. 13.

Prosite Pattern Matches for 25278

Prosite versions: Release 12.2 of February 1995

>PS00001/PDOC00001/ASN_GLYCOSYLATION N-glycosylation site.

Query: 276 NITW 279

Query: 288 NNSV 291

Query: 466 NISA 469

Query: 496 NRTA 499

>PS00004/PD0C00004/CAMP_PHOSPHO_SITE cAMP- and cGMP-dependent protein kinase phosphorylation site.

Query: 314 RKGT 317

>PS00005/PDOC00005/PKC_PHOSPHO_SITE Protein kinase C phosphorylation site.

Query: 102 TGR 104

Query: 160 TRR 162

Query: 244 SPR 246

Query: 340 TSR 342

Query: 383 SPR 385

Query: 457 SVR 459

Query: 566 SQR 568

>PS00006/PDOC00006/CK2_PHOSPHO_SITE Casein kinase II phosphorylation site.

Query: 67 SDIE 70

Query: 244 SPRE 247

Query: 268 TCMD 271

Query: 317 TYWE 320

Query: 363 SAAD 366

Query: 525 SDEE 528

>PS00007/PDOC00007/TYR_PHOSPHO_SITE Tyrosine kinase phosphorylation site.

Query: 134 KLQEAGY 140

>PS00008/PDOC00008/MYRISTYL N-myristoylation site.

Query: 110 GLQHSI 115

Query: 169 GSLTGN 174

Query: 205 GQYSTM 210

Query: 300 GQTFSG 305

Query: 321 GGVRGL 326

Query: 356 GLAGGT 361

Query: 402 GSLEGG 407

Query: 409 GIWNTA 414

Query: 447 GSWWNL 452

>PS00009/PDOC00009/AMIDATION Amidation site.

Query: 312 RGRK 315

Query: 541 RGRR 544

>PS00149/PDOC00117/SULFATASE_2 Sulfatases signature 2.

Query: 139 GYSTHMVGKW 148

>PS00523/PDOC00117/SULFATASE 1 Sulfatases signature 1.

Query: 91 PICTPSRSQLLTG 103

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Input file 26212cons; Output File 26212pat Sequence length 2266

ATCACTTCTGGAAGATTAAAGTTGTCGGACATGGTGACAGCTGAGAGGAGGAGGAGGAGTTTCTTGCCAGGTGGAGAGTCT TCACCGTCTGTTGGGTGCATGTGTGCGCCCGCASCGGCGCGCGGGGCGTGGTTCTCCGCGTGGAGTCTCACCTGGGACC A G H P P P S 18 P C G TGAGTGA ATG GCT CCC AGG GGC TGT GCG GGG CAT CCG CCT CCG CCT TCT CCA CAG GCC TGT P R 54 38 G G L Α Α M GTC TGT CCT GGA AAG ATG CTA GCA ATG GGG GCG CTG GCA GGA TTC TGG ATC CTC TGC CTC K M L 114 58 E E E E E G Q L А W G G Y S CTC ACT TAT GGT TAC CTG TCC TGG GGC CAG GCC TTA GAA GAG GAG GAA GAA GGG GCC TTA L 174 78 T T S Q S S \mathbf{T} E P E K L CTA GCT CAA GCT GGA GAG AAA CTA GAG CCC AGC ACA ACT TCC ACC TCC CAG CCC CAT CTC 234 98 G D Ġ F R D Q Ð ATT TTC ATC CTA GCG GAT GAT CAG GGA TTT AGA GAT GTG GGT TAC CAC GGA TCT GAG ATT A 294 118 v K L E Α AAA ACA CCT ACT CTT GAC AAG CTC GCT GCC GAA GGA GTT AAA CTG GAG AAC TAC TAT GTC K L А 354 138 \mathbf{T} G K F Ι CAG CCT ATT TGC ACA CCA TCC AGG AGT CAG TTT ATT ACT GGA AAG TAT CAG ATA CAC ACC 414 158 N C L P I I R GGA CTT CAA CAT TCT ATC ATA AGA CCT ACC CAA CCC AAC TGT TTA CCT CTG GAC AAT GCC н 474 178 V G S Y K E ACC CTA CCT CAG AAA CTG AAG GAG GTT GGA TAT TCA ACG CAT ATG GTC GGA AAA TGG CAC L 534 198 T F D G P Т R R C M E TTG GGT TTT TAC AGA AAA GAA TGC ATG CCC ACC AGA AGA GGA TTT GAT ACC TTT TTT GGT 594 218 K C D Y H D TCC CTT TTG GGA AGT GGG GAT TAC TAT ACA CAC TAC AAA TGT GAC AGT CCT GGG ATG TGT S G 654 238 D N G D Y A N D Y E GGC TAT GAC TTG TAT GAA AAC GAC AAT GCT GCC TGG GAC TAT GAC AAT GGC ATA TAC TCC L 714 258 I L P т Α S N Q Q R v Q ACA CAG ATG TAC ACT CAG AGA GTA CAG CAA ATC TTA GCT TCC CAT AAC CCC ACA AAG CCT 774 278 S. P L Q H A ATA TTT TTA TAT ATT GCC TAT CAA GCT GTT CAT TCA CCA CTG CAA GCT CCT GGC AGG TAT 834 298 R I N R R Τ TTC GAA CAC TAC CGA TCC ATT ATC AAC ATA AAC AGG AGG AGA TAT GCT GCC ATG CTT TCC S 894 318 L K G v T TGC TTA GAT GAA GCA ATC AAC AAC GTG ACA TTG GCT CTA AAG ACT TAT GGT TTC TAT AAC N 954

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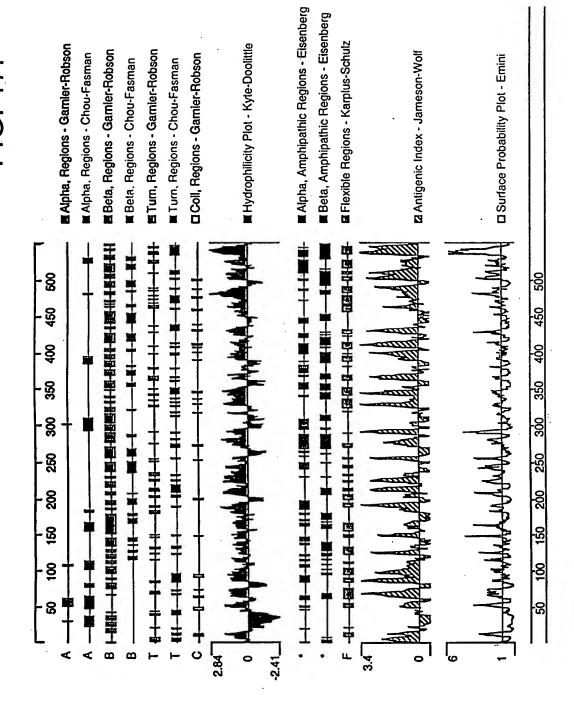
N	s	r	r	I	Y	s	S	D	N	G	G	Q	P	T	A	G	G	S	N	338
														ACG	GCA	GGA	GGG	AGI	AAC	1014
W	P	L	R	G	s	K	G	T	Y	W	E	G	G	I	R	A	V	G	F	358
TGG	CCT	CTC	AGA	GGT	AGC	AAA	GGA	ACA	TAT	TGG	GAA	GGA	GGG	ATC	CGG	GCT	GTA	GGC	1.1.1.	1074
87		_	P		. ;	K	B.T	*		т	v	C	ĸ	E	L	v	H	I	4'	378
GTG	CAT	AGC	CCA	CTT	CIG	AÄA	AAC	AAG	GGA	ACA	GTG	TGT	AAG						ACT	1134
	W	Y	P	T	L	I	s	L	A	E	G	Q	I	D	E	D	I	.Q	L	398
D GAC	TGG	TAC	CCC	ACT	CIC	ATT	TCA	CTG	GCT										CTA	1194
									s		G	L		s	P	R	v	D	I	418
D GAT	G	Y TAT	D GAT	I	W TGG	e Gag	ACC	ATA	AGT	GAG	GGT	CTT	CGC	TÇA	ccc					1254
Oni	990		0																	
L	H	N	I	D	P_	I ATA	Y	T	K	A CCA	K AAA	N TAA	G GCC	S TCC	₩ TGG	A GCA	A GCA	GGC	Y TAT	438 1314
TTG	CAT	AAC	ATT	GAC	CCC	ATA	TAC	ACC	AAG	GCA	ruut	7411	-	100	100	-				1314
G	I	W	N	T	A	I	Q	s	A	I	- R	v	Q	H	W	K	<u>L</u>	L	<u>T</u>	458
GGG	ATC	TGG	AAC	ACT	GCA	ATC	CAG	TCA	GCC	ATC	AGA	GTG	CAG	CAC	TGG	AAA	TTG	CTT	ACA	1374
G	N	P	G	Y	s	D	W	v		P		s	F	s	N	L	G	P	N	478
GGA	AAT	CCT	GGC	TAC	AGC	GAC	TGG	GTC	CCC	CCT	CAG	TCT	TTC	AGC	AAC	CTG	GGA	CCG	AAC	1434
	2.3	**		12	R.	I	т	s	s	т	G	ĸ	s	v	W	L	F	N	I	498
R CGG	W TGG	H CAC	N AAT	E GAA	CGG	ATC	ACC									CTT	TTC	AAC	ATC	1494
														·						510
T	A	D	P	Y	E	R AGG	V CWC	D C	L CTA	S TOT	N	R AGG	Y TAT	P CCA	G GGA	I ATC	V GTG	K AAG	K AAG	518 1554
ACA	GCC	GAC	CCA	TAT	GAG	AGG	GIG	GAC	CIA	101		1100								
L	L	R	R	L	S	Q	F	N	K	T	A	V	P	V	R	Y	P	P	K	538
CTC	CTA	CGG	AGG	CTC	TCA	CAG	TTC	AAC	AAA	ACT	GCA	GTG	CCG	GTC	AGG	TAT	CCC	CCC	AAA	1614
D		R	s	N	P		L	N		G	v	*								551
GAC	CCC	AGA	AGT	AAC	CCT	AGG	CTC	AAT	GGA	GGG	GTC	TAG								1653
GCACCATGGTATAGAGAGGAAACCAAGAAAAAGAAGCCAAGCAAAAATCAGGCTGAGAAAAAGCAAAAGAAAAGCAAAA																				
AAAGAAGAAGAAACAGCAGAAAAGCAGTCTCAGGTTCAACTTGCCATTCAGGTGTTACTTGTGGATAAGCACAAATATTT																				
CCT	GTTT	GGTT	AAAC	ATTT	ATCA	GTTC	TATT	CTTT	CATC	TGTT	TCCT	AGGT	AAAC	CAGC	TAAA	TTGG	CTCG	ATAA	TATC	
GCTGGCCTAAGCGTCAGGCTTGTTTTCATGCTGTGCCACCTGGTGCCGAATTC																				

Analysis of 26212prot (550 aa)

РРАН		Sulfa	Sulfatase										7	
Prollan	136269			7764	7784 1416823188	3168				42365 35227	5227		ī	
	The state of the s	And John Marie							44.73 44.73	- professor - 1 2 1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1) v _e	
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	1 1 41		121	161	201	1 1 241	- - 281	1 1	1 1	161 201 241 281 321 361 401 441 481 521	- 44 - 14	 -		

FIG. 16.

FIG. 17



Inventor(s): Glucksmann et al. Application No: 09/495,823

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Prosite Pattern Matches for 26212prot

Prosite version: Release 12.2 of February 1995

>PS00001 PDOC00001 ASN_GLYCOSYLATION N-glycosylation site.

157 NATL 160 Query: 309 306 NVTL Query: 321 NNSI Query: 318 434 NGSW 431 Query: 500 NITA Query: 497 530 . . NKTA Query: 527

>PS00004|PDOC00004|CAMP_PHOSPHO_SITE cAMP- and cGMP-dependent protein kinase phosphorylation site.

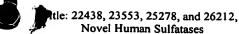
Query: 521 RRLS 524

>PS00005|PDOC00005|PKC_PHOSPHO_SITE Protein kinase C

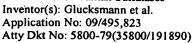
phosphorylation site.

Query:	131	TGK	133
Query:	189	TRR	191
Query:	243	TQR	245
Query:	413	SPR	415
Query:	489	TGK	491
Query:	509	SNR	511

FIG. 18A.



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>PS00006 PD0C00006 CK2_PHOSPHO_SITE Casein kinase II phosphorylation site.

Query: 298 SCLD 301

Query: 347 TYWE 350

386 389 Query: SLAE

409 406 Query: TISE

>PS00007|PD0C00007|TYR_PHOSPHO_SITE Tyrosine kinase phosphorylation site.

Query: 163 KLKEVGY 169

>PS00008 PDOC00008 MYRISTYL N-myristoylation site.

GALAGF 33 Query: 28

GALLAQ Query: 56 61

139 GLQHSI 144 Query:

203 198 **GSLLGS** Query:

235 GIYSTQ 240 Query:

329 GGQPTA 334 Query:

348 343 **GSKGTY** Query:

351 **GGIRAV** 356 Query:

437 Query: 432 **GSWAAG**

Query: GIWNTA 444 439

>PS00149 | PDOC00117 | SULFATASE_2 Sulfatases signature 2.

177 **GYSTHMVGKW** Query: 168

>PS00523 | PDOC00117 | SULFATASE_1 Sulfatases signature 1.

Query: 120 **PICTPSRSQFITG** 132

FIG. 18B.